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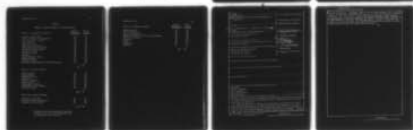
NAVAL HEALTH RESEARCH CENTER SAN DIEGO CALIF
A FACTOR ANALYTIC STUDY OF MOTIVATIONS FOR DRUG USE, (U)
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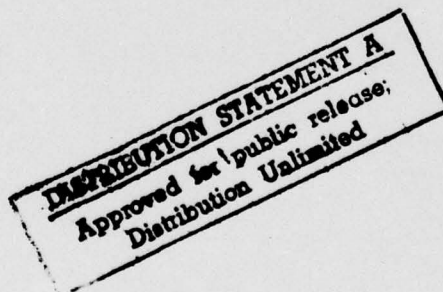A FACTOR ANALYTIC STUDY OF MOTIVATIONS FOR DRUG USE

E. K. E. GUNDERSON
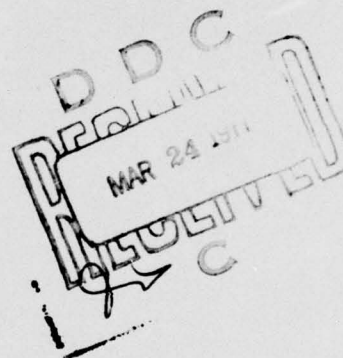
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REPORT NO. 73-20

NAVAL HEALTH RESEARCH CENTER

SAN DIEGO, CALIFORNIA 92152

NAVAL MEDICAL RESEARCH AND DEVELOPMENT COMMAND

BETHESDA, MARYLAND

A Factor Analytic Study of Motivations for Drug Use[1]

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Abstract

Factor analysis was used to delineate the most important motivational patterns associated with drug use in a population of Navy enlisted men (N = 664) undergoing drug rehabilitation.

S̲s indicated which of 31 reasons for drug use were associated with various drugs and similarly which of 39 risks were perceived in using the same drugs. Four factors, representing major need dimensions, emerged from the analysis of reasons; these were labeled Insight, Therapy, Sentience, and Pleasure. The Insight factor was the largest and embodied a general concept of seeking meaning and self-fulfillment. Sentience, which is often lumped together with the insight concept in discussions of motives for drug use, was clearly defined as a separate dimension. Four risk factors, labeled Psychiatric Problems, Social Problems, Sexual Problems, and Medical Problems, meaningfully described major complications or side-effects of drug use. The findings suggest a number of hypotheses pertaining to interrelationships among patterns of motives for drug use, perceived risks, choice of drugs, and actual drug use behavior.

A Factor Analytic Study of Motivations for Drug Use[1]

E. K. E. Gunderson, M. C. Butler, R. L. Nail,

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The motivations that lie behind the drug abuse epidemic that has
engulfed our society are as yet poorly understood. Knowledge of moti-
vational factors has been recognized as critical to the development of
effective preventive and treatment measures, but few efforts have been made
to describe the attractions and perceived dangers associated with specific
drugs in precise terms.

A previous study (Nail, Gunderson, & Kolb, 1973a) indicated that cer-
tain motives were associated with the use of specific drugs. Reasons for
use were classified into two broad categories, hedonistic and therapeutic,
based upon a priori judgments or face validity. This classification was
meaningful in that motives for using various drugs were shown to be quite
different.

The same authors investigated risks perceived to be associated with
various drugs and found that three types of risks, medical, psychiatric, and
social, again grouped in terms of a priori considerations, differed in their
relationships to specific drugs (Nail, Gunderson, & Kolb, 1973b).

Further investigation appeared desirable in order to better understand
patterns of motives and perceived risks which might suggest underlying
psychological needs and social influences involved in drug abuse. Factor

analytic methods were employed in this study to delineate more clearly the most distinctive and important motivational patterns associated with drug use in a population of young but experienced drug users.

Method

Subjects

The Ss were 664 Navy enlisted men who entered the Naval Drug Rehabilitation Center, Miramar, California, during 1971 and 1972. These men had applied for amnesty or exemption from prosecution because of illegal drug use and subsequently spent several weeks or months in treatment at the Miramar Center. The Ss were typically from the lower pay grades (E-2 or E-3), 20-23 years of age, and Caucasian; they reported multiple drug usage over a period of 2-4 years. Approximately one-half had served in Vietnam. The drug histories and demographic characteristics of the Drug Center population have been described in detail elsewhere (Nail, Gunderson, Kolb, & Butler, 1972).

Procedure

Interviews and questionnaires were administered routinely upon admission to the Center. One questionnaire listed 31 possible reasons for drug use and 39 possible risks associated with drug use. Ss were instructed to indicate which of six drugs (cannabis, hallucinogens, opiates, stimulants, hypnotics, and cocaine) were associated with each of the reasons and risks. Thus, Ss could indicate no drug, one drug, or more than one drug for each reason and risk. While all subjects were asked to respond to perceived risks, only Ss who had actually used specific drugs were asked to indicate reasons for use.

In the present analysis, reference to specific drug type was ignored. Positive responses to any item were scored "1" regardless of the specific drug indicated, and no association of the item with a drug or drugs was scored "0." Separate product-moment correlation matrices were computed for the 31 reasons and 39 risks. The principal components method of factor analysis was employed, and factors with eigen values greater than 1.0 were subjected to the varimax rotation procedure (Kaiser, 1958).

Results

Four major factors emerged from the analysis of reasons for drug use, accounting for 51% of the total variance. The items constituting the factors and their factor loadings are shown in Table 1. For simplicity of interpretation, only items with loadings greater than .40 were included.

(Insert Table 1 about here.)

The first factor accounted for 36% of the total variance, and at first glance seemed to include a variety of specific concepts. Closer inspection of these items revealed a general theme, labeled Insight, which included seeking personal identity, self-understanding, closeness to others, and meaning in life.

The components of the second factor, labeled Therapy, clearly pertained to alleviation of symptoms or coping with adjustment problems. The content of this factor suggested being overwhelmed by personal problems and desires for relief or escape.

The third factor, labeled Sentience, uniquely suggested that intense sensory stimulation and "psychedelic" experiences are sought.

The fourth factor suggested pleasurable experimentation with drugs and enhancement of group enjoyment.

Two items did not load highly on any of the first four factors but themselves intercorrelated .62. These items were: "To get a sexual feeling from the drug" and "To improve sexual pleasure."

Four major factors also emerged from the analysis of perceived risks, together accounting for 59% of the total variance. The items and their factor loadings are shown in Table 2. Again, for purposes of interpretation, only loadings greater than .40 were considered.

(Insert Table 2 about here.)

The first risk factor, labeled <u>Psychiatric Problems</u>, accounted for 49% of the total variance and rather strikingly portrays symptoms of social withdrawal and profound psychopathology, including psychosis. The contents of the factor expressed feelings of confusion, isolation, and inability to deal with reality.

Items appearing in the second factor, labeled <u>Social Problems</u>, reflect a number of concerns about legal difficulties, social roles, and family relations. The variables in this category pertain particularly to problems with social responsibilities and fear of authority figures.

The third factor (<u>Sexual Problems</u>) referred to fears of complications related to sexual activity while the fourth factor (<u>Medical Problems</u>) described somatic or physiological side-effects that are commonly associated with a number of drugs.

Three of the risk items did not load uniquely on a single factor: "Birth defects in your children," "Sad feelings or depression," "Paranoid thoughts, fears, and suspicions." In the previously cited study of risks (Nail, Gunderson, & Kolb, 1973b), the birth defects items was uniquely associated with hallucinogen use.

Discussion

The earlier a priori classification of reasons into hedonistic vs. therapuetic categories was generally supported, but the factor analysis yielded a more complex and meaningful differentiation of motives than had been apparent previously. A more restricted and homogeneous dimension was defined for therapeutic needs (Therapy), and two hedonistic factors (Sentience and Pleasure) clearly emerged. The most important factor to emerge, however, had not been previously identified. The Insight factor embodies a general concept of seeking meaning and self-fulfillment in life. Such strivings, of course, are not unique to drug users, but rather represent common, if not universal human needs; these needs may be felt more intensely by young people who have not yet established occupational, marital, or social roles and are uncertain of the future. Speaking of the attraction of drugs for college students, Nowlis (1969, p. 22) described the difficult, often painful, process of achieving personal identity, independence, and meaningful life values and stated: "It seems as if nothing could have been better designed, either by the proponents of LSD or by the mass media which publicized it, to appeal to the personal, social, and emotional needs and the idealism of these young people who are 'hung up' in a society which has made adolescence so prolonged and adulthood so uncertain." Another observer noted that "drug use is generally part of a more general pattern of experimentation and search for relevance both within and without the college experience -- it is one aspect of a more encompassing effort to find meaning in life" (Keniston, 1968, p. 100). Perhaps it is not surprising then to find desires for insight, creativity, and social relationships associated with drug use among troubled post-adolescents -- whether college students or

military personnel of the same age.

The concepts of insight and sentience tend to be lumped together as reasons for drug use in most discussions of this topic (e.g., Keniston, 1968 and Nowlis, 1969). While later studies may show that these needs are substantially correlated, it appears desirable to distinguish them insofar as possible. For example, it might make some difference for prevention, prognosis, or treatment whether an individual is high on only one, both, or neither of these needs. One might speculate that individuals who are high on need for sentience might be more autistic and socially alienated than others. This is a question for future research.

The a priori classification of risks (Psychiatric, Social, and Medical) was supported by the factor analysis, but a fourth factor emerged which was concerned with the social consequences of sexual activity. Promiscuous sexual behavior has been noted as an important correlate of drug usage in studies of high school students (Judd, Gunderson, et al., 1972; Carney, 1969). In the Navy drug user population concern with sexual enjoyment was uniquely associated with the use of cocaine.

The Psychiatric Problems and Social Problems factors provided meaningful and homogeneous dimensions, somewhat broader in scope and complexity than the Sex Problems and Medical Problems factors. The latter factor consisted of a rather specific set of common physical symptoms or side effects. In the previous study of risks (Nail, Gunderson, & Kolb, 1973b), Psychiatric Problems items were strongly associated with hallucinogen use, Medical Problems with stimulants (amphetamines) and hypnotics (barbiturates), and Social Problems with opiates.

Perceived risks are presumed to reflect knowledge of drug effects and

to some extent personal values pertaining to drug use. For example, individuals who are generally socially conforming but experiment with drugs might be expected to perceive greater risks, particularly in the areas of social problems (arrests, school or career failure, and parental disapproval) and sexual problems. On the other hand, individuals with a history of psychiatric disturbances might be more fearful of psychiatric breakdown as a consequence of drug use.

The results of this study, while exploratory, tend to agree with general observations of motivations for drug use. The present findings suggest a number of hypotheses concerned with interrelationships among personality needs and resources, perceived dangers of drug use, choice of drugs, and degree of involvement. Further studies are in progress to examine a series of such hypotheses.

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Footnotes

Table 1

Results of Factor Analysis of Reasons for Drug Use

Factor I – Insight	Percent Responding	Factor Loading
To find oneness with the universe	20	71
For religious expression	13	67
To gain understanding of a special problem	24	66
To clarify thinking	26	65
To improve taste sensations	22	65
To prove to others I can handle drugs	19	63
To increase creative ability	30	62
To face reality	23	59
For increased understanding of others	38	58
To have a closer relationship with someone	31	56
To express feelings of rebellion	27	53
To increase speaking ability	31	46

$$r_{xx} = .90^a$$

Factor II – Therapy		
To help cope with personal problems	49	71
To relieve depression	63	70
To help me cope with "hang ups"	44	66
To escape reality	46	61
To relieve tension	77	60
To get through the day	51	51
To relieve boredom	69	47
To be less afraid	31	45

$$r_{xx} = .82$$

Factor III – Sentience		
To increase visual experiences	51	69
To increase sensitivity to music	60	66
To expand the mind	47	66
To feel "high"	85	54
To make things look beautiful	43	44

$$r_{xx} = .78$$

Factor IV – Pleasure		
Only for fun	52	66
For curiosity	71	61
To be "in" with a social group	38	48
Only to feel happy	51	43

$$r_{xx} = .66$$

[a]Internal consistency reliability estimates are based upon item intercorrelations and the Spearman-Brown correction.

Table 2

Results of Factor Analysis of Perceived Risks

Factor I – Psychiatric Problems	Percent Responding	Factor Loading
Isolation from others	43	70
Loss of interest in surroundings	48	70
Lost contact with reality	53	70
Lost ambition	53	70
Irrational ideas	48	62
Deeper drug involvement	60	62
Frightening imaginary sounds	45	61
Decreased attention span	46	59
Mystical feelings	46	58
Increased tension	48	57
Confusion	56	56
Decreased sexual desire	46	55
Dulled thinking	56	54
Suicidal feelings	48	54
Decreased sexual pleasure during intercourse	44	51

$$r_{xx} = 95^a$$

Factor II – Social Problems		
Police problems	76	68
Drug expenses	74	64
Driving accidents	63	61
Addiction	81	60
Parents disapprove	73	57
Work accidents	56	51
Career plans wrecked	56	50
Undesirable mental changes	71	48
Poor school work	52	45

$$r_{xx} = .88$$

Factor III – Sexual Problems		
Venereal disease (VD)	18	81
Causing an unwanted pregnancy	23	82
Disapproval from friends	41	46

$$r_{xx} = .81$$

[a]Internal consistency reliability estimates
are based upon item intercorrelations and
the Spearman-Brown correction.

Gunderson et al

Factor IV – Medical Problems	Percent Responding	Factor Loading
Rapid heartbeat	61	69
Poor coordination	54	54
Visual hallucinations	65	63
Decreased ability to talk or write properly	52	62
Shortness of breath	43	62
Dizziness	47	59
Nausea	48	57
Sleepiness	61	57
Hepatitis	53	45

$$r_{xx} = .92$$

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